



**LeGrande Technical and  
Social Services, LLC**

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08 October 2009

VIA ELECTRONIC FILING

Ms. Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, S.W.  
Washington, DC 20554

**Re: Implementing a Flexible Interoperable Broadband, Public safety Network approach in the PS and D-Block 700 MHz Band, PS Docket No. 06-229; The Development of Operational Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communication Requirements Through the Year 2010, WT Docket No. 96-86.**

Dear Ms. Dortch:

On October 1, 2009, the undersigned met with Commissioner Mignon Clyburn and Renee Crittendon. The meeting took place at the request of Robert LeGrande, II to discuss the business and technical aspects of the 700MHz PS broadband communication. Further substance of the discussion is set forth in the attached handout.

In accordance with Section 1.1206(b)(2) of the Commission's rules, this letter is being filed electronically with your office. Please contact the undersigned with any questions in connection with this filing.

Respectfully submitted,

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Robert LeGrande, II.  
President and CEO  
LeGrande Technical and Social Services; LLC

cc: Renee Crittendon

*"Innovation Through Integration and Interoperable Communications"*



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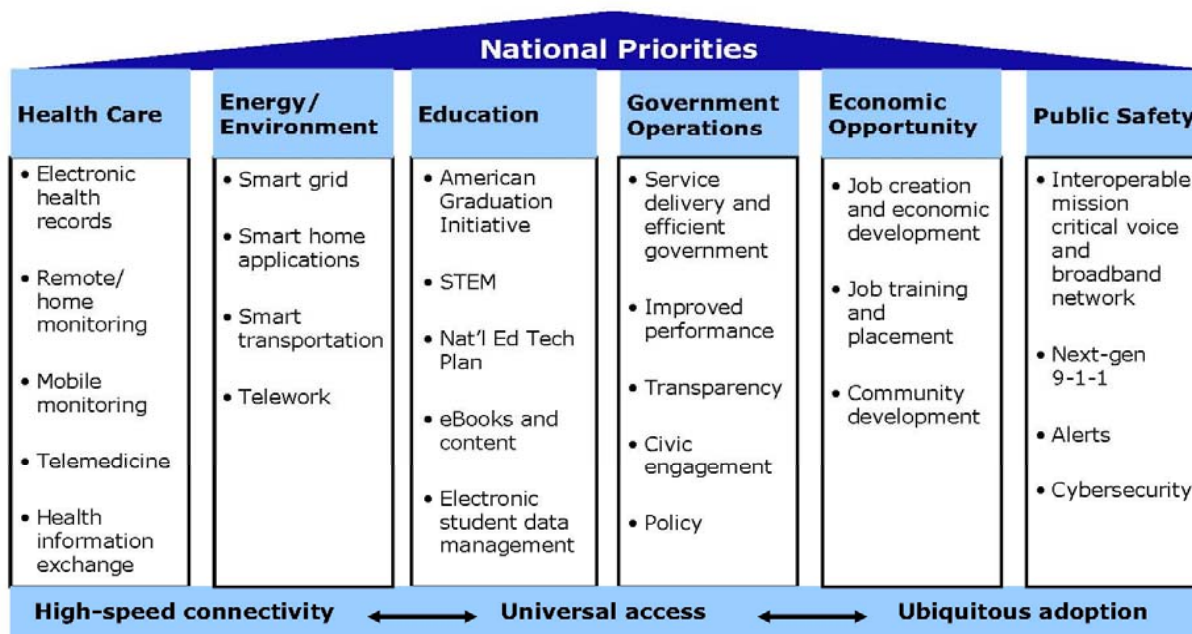
# **Broadband Wireless Communications for Public Safety: “A Flexible National Network Build Approach”**

**Presented by  
Robert LeGrande, II.  
Former CTO, District of Columbia Government  
CEO, LeGrande Technical and Social Services, LLC**



# Information from the FCC September 29<sup>th</sup> Status meeting

Broadband enables innovations necessary for the transformation



BB for PS is a top priority for the Nation and PS





# Information from the FCC September 29<sup>th</sup> Status meeting Continued

## Ensuring public safety requires a high quality network

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Today:

- Access only to mobile, wireless, commercial broadband
- No specialized mobile, wireless broadband
- Applications developing

GOAL

A light blue rectangular box containing the word "GOAL" in black capital letters. A blue arrow points downwards from the bottom center of the box to a list of goals.

- Interoperable
- Nationwide
- Resilient
- Reliable
- Specialized
- Enhances mission critical voice over time

How do we achieve these goals  
when our needs and capabilities  
differ from jurisdiction to jurisdiction?



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# Partner/Build/Buy Business Model



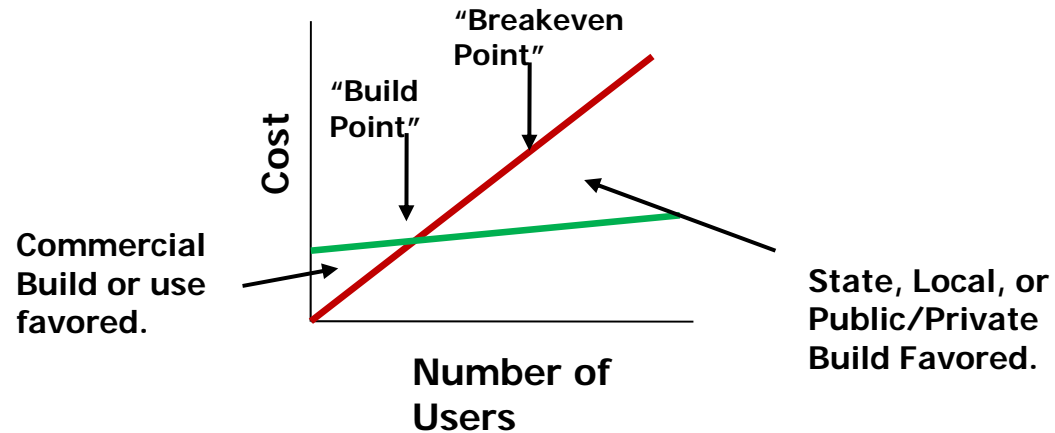
**Rule of Thumb:**  
As The Ratio of  
# Network  
Users to  
Coverage Area  
Increases...



Financial analysis  
moves toward favoring  
local build model with  
all other factors held  
equal.



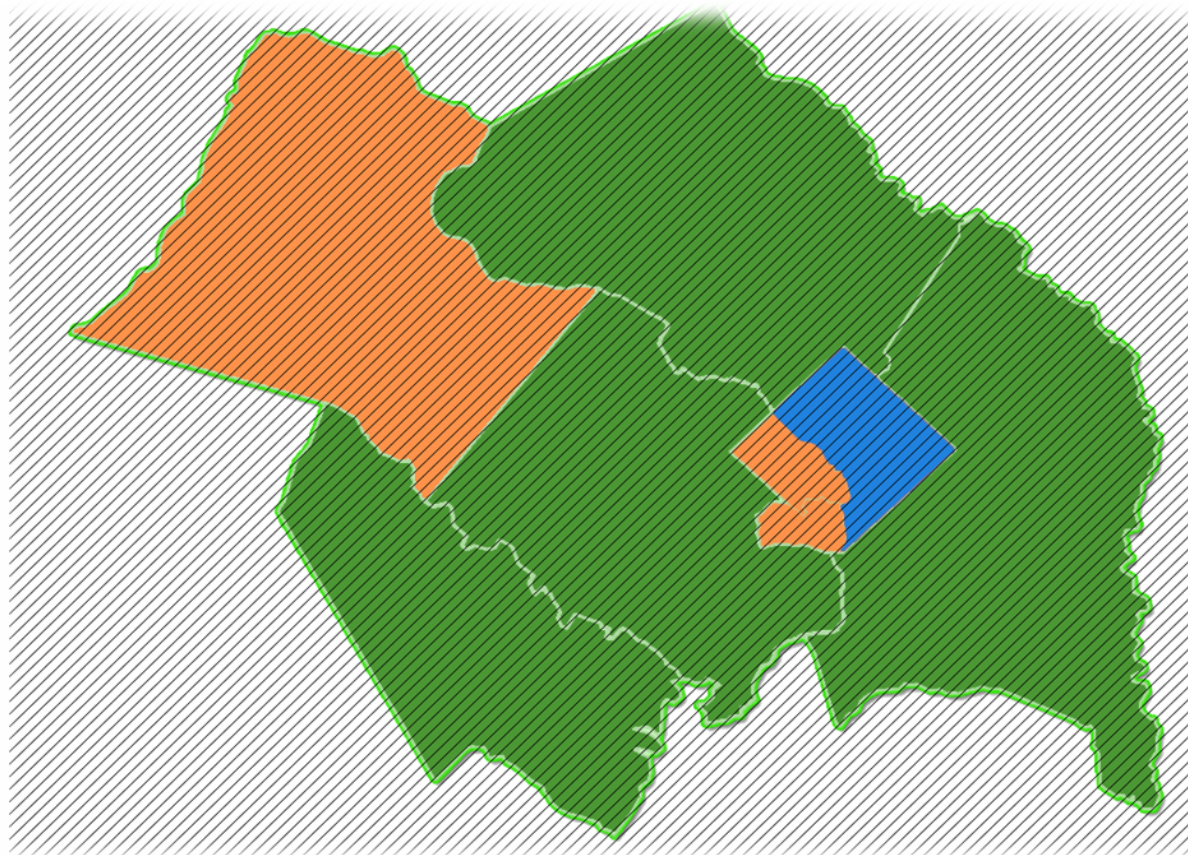
**Why? Subscription Costs  
of a Commercial Service  
Becomes More  
Expensive Than  
Ownership**



- Commercial Subscription Cost
- Network Operating Ownership Cost

One size does not fit all jurisdictions.  
We must have a flexible approach that can  
be implemented nationally.

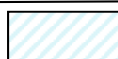
# “The Flexible 700MHz Broadband Network Build Approach” Public, Public/Private and Private networks working together



**Standards + Common technology (LTE) + shared frequencies (PS and D Block) =**

***INTEROPERABILITY***

## **Legend**



Commercial  
Public  
Roaming  
Partners (AT&T, VZW,  
Regional LTE Carriers)



Jurisdictions allow commercial  
Carriers to build and operate  
their networks on PS & D Block  
700 MHz Spectrum



Private County-wide  
Networks on PS & D  
Block 700MHz Spectrum



Private City-wide Networks  
on PS and D Block 700MHz  
spectrum



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# The Flexible Network Build Approach

- National decision making on general spectrum use with State and/or Regional sub-licensing and coordination
- Local decision making on deployment approach
  - Public safety builds and operates PS and D Block 700MHz Spectrum networks
  - Public safety contracts commercial vendors to 1) build on the PS and D block spectrum on existing local government infrastructure and 2) provide priority service for PS users
  - Public safety contracts commercial vendors to 1) build on the PS and D block spectrum on commercial infrastructure and 2) provide priority service to PS users
  - Local Public safety agencies partner with the States and/or federal agencies to build on the PS and D block spectrum leveraging federal ,state, and local infrastructures.
- All must build to national public safety standards – defined by PS Oversight organization. The NPSTC 700MHz PS Broadband Task Force report is a great start to the standardization process.



# The Flexible National Network Build Approach

## “Questions and Answers”

- Question: Does PS need the 700MHz D Block Spectrum?
  - **Answer:** Yes. The D Block Spectrum is uniquely positioned next to the PS broadband spectrum and creates a large contiguous block of spectrum which allows for more flexible technological network configurations. This also mirrors the national carrier network spectrum block sizes and should therefore allow PS to better maintain commercial off-the shelf network changes in the future. Lastly, the trend for all broadband communication uses continues to grow exponentially. More and more users combined with more and more advanced uses, all requiring increased bandwidth dictates that we allocate for the future.
- Question: Why can't PS use the 700MHz Narrowband spectrum?
  - **Answer:** Simply put, voice over IP is not ready yet. Where necessary, we need to continue to promote 700MHz narrowband LMR deployments. Later, after the voice, video, and data (VVD) convergence, and mature, reliable PS grade VVD devices are developed; we will be able to transition all communications from LMR to broadband networks.
- Question: Once the VVD convergence happens, should PS return unused portions of spectrum to the FCC for reallocation? If so, when do you think this will occur?
  - **Answer:** Yes, 5-10 years



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# The Flexible National Network Build Approach

## “Questions and Answers” Continued

- Question: How do we pay for it?
  - **Answer:** As noted in the Subcommittee on Communications, Technology, and the Internet hearing titled, “A National Interoperable Broadband Network for Public Safety: Recent Developments”, there is a financial shortfall in all existing proposals. The Committee Chair stated that a general fund investment will be required for any option we choose.
    - The funding approach we use must leverage all available funding sources (Federal, State, Local, and Commercial).
    - Using the Partner/Build/Buy business model on page 3 will promote sustainable decision making for all jurisdictions large and small. If there are not enough local or regional users to justify a local or regional build, then a commercial partnership should be leveraged. Because this differs per jurisdiction, we must have a flexible approach.
    - We must invest in the direction we are going. The ARRA, and all future PS broadband interoperable communications grants must comply with the established PS recommendations set forth by the national PS associations. Otherwise we will be investing in **non-interoperable** PS BB network solutions.
    - The Flexible Network approach gives the jurisdictions (Customers) a choice and allows them to leverage local, state, federal and/or commercial infrastructure and funding to build PS networks.
    - Note, there will be unused blocks of 700 MHz PS and D Block spectrum that some state and local governments will not utilize for their communications needs. The PSST should be leveraged to either work with the federal government to finance build outs or to competitively partner with commercial carriers to build in unused areas.

These answers contradict traditional commercial spectrum allocation and network build methodologies. However, we are **not** designing commercial networks. In the past we allocated small left over chunks of spectrum for PS use. This has contributed to the interoperability problems we have today. Our first responders deserve better.



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## Recommended Next Steps

- Approve all pending 700 MHz BB Spectrum waiver requests so long as the requests are consistent with the established NPTSC recommendations and the flexible network build approach presented earlier
- Provide Federal funding for all pending waiver deployments including device development. These first deployments kick start the 700MHz PS BB marketplace. They will also result in critical analysis information that will better inform our next steps for the entire country.
- Provide NTIA, DHS and all other BB PS communications grant sponsoring organizations with the NPTSC recommendations and the flexible network build approach to ensure that all future PS BB grants (NTIA ARRA Round #2 and #3, etc) only invest standard interoperable BB solutions

We must change our approach in order to change the results!



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Social Services, LLC**

**INNOVATION THROUGH**

**INTEGRATION AND INTEROPERABLE COMMUNICATIONS**

LEGTSS is a small, minority owned business that specializes in advanced data and communications integration solutions for both government and commercial clients. Our unique team has extensive experience in solving some of America's most pressing issues, such as First responder communications interoperability, large scale Homeland Security application implementation and data integration. Members of the LEGTSS team led the District of Columbia's Land Mobile Radio (LMR) network upgrade and as a result the District's First Responders have one of the best interoperable communications systems in the country.

These advancements also led to the development of the nation's first city-wide broadband wireless network for first responders. This pilot network serves as a test bed for how applications can be shared securely among public safety agencies and provides insight to key requirements and operational issues regarding broadband technology. Cited by the Department of Commerce as a Model for the nation, LEGTSS is one of only a few companies in the country with the proven regulatory, governance and technical experience to solve America's public safety LMR and Broadband communications challenges.

The District's Wireless network is a model for the Nation  
[http://www.ntia.doc.gov/ntiahome/press/2007/WARN\\_060807.html](http://www.ntia.doc.gov/ntiahome/press/2007/WARN_060807.html)

#### **STAFFING CAPABILITIES**

LEGTSS provides the following types of IT and business staffing services:

**Program and project solutions delivery, Contract Staffing, Temporary to Permanent Staffing  
Permanent Placements – Direct Hire**

#### **PORTFOLIO OF SERVICES**

We provide a spectrum of IT and Governmental services which fall within the following key service areas:

<b>SERVICES SUMMARY</b>	
Congressional and Regulatory Technical Advisors	Homeland Security Application Development and Integration
Governance and operational process development	Interoperable communications solutions
<b>CUSTOMERS</b>	
District of Columbia Government	<b>SERVICES PROVIDED</b> Wireless Program Executive
Alcatel-Lucent, Inc.	700 MHz Network Public Safety Strategic Planning
Qualcomm, Inc.	700 MHz Network Public Safety Strategic Planning
Maryland Department of Human Services APCO International, Inc.	System Modernization and Strategic Planning Facilitator, Public Safety Communications Visioning Exercise, ARRA Broadband Grant writing
Verizon Wireless, Inc.	700 MHz Network Public Safety Strategic Planning
New York State Government	700 MHz Network Public Safety Strategic Planning, ARRA Broadband Grant writing

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